CONTENT-BASED FORWARDING/FILTERING
IN A NETWORK SWITCHING DEVICE

ABSTRACT OF THE DISCLOSURE

5   A method of processing frames received at a sending port of a switching device for communication to a destination port includes storing in the switching device an offset value, a comparator value, and an expectant value; comparing information located at a position in a frame determined by the offset value with the comparator value to obtain an outcome; and processing the frame with the

10   outcome. Processing the frame may include communicating the frame to a destination port or setting the priority of the frame. The offset and comparator values may be part of a filter that also includes an anchor value from which the offset value is measured and a mask value that masks the frame information before comparison with the comparator value. Where there are a multiple of filters in the

15   switching device, the method may include combining the filter outcomes to obtain a filter group outcome; and processing the frame with the group outcome. Combining the filter outcomes may include logically combining their outcomes. The method may also include merging the outcome with frame forwarding information from another source; and processing the frame with the merged

20   outcome. Apparatus in accordance with the invention practices these methods.